

REMARKS

This responds to the Office Action dated on December 22, 2005.

Claims 1-4, 8, 11, and 12 are amended and withdrawn claims 13-15, 17, 27, 28, 29, 31, 40-42, 44, 46-50, 52, 54, and 55 are amended, no claims are canceled, and no claims are added; as a result, claims 1-57 and 104-106 are now pending in this application with claims 1-12 currently pending examination. The amendments to the claims are fully supported by the specification as originally filed. No new matter is introduced. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

Support for the amendments may be found, for example, in Figures 1H and 2I, where amendments to dependent claims are based on the amendments to the independent claims on which they depend.

Objections to the Drawings

The drawings were objected to under 37 CFR. 183(a).

Applicant appreciates that the Examiner has drawn Applicant's attention to the discrepancy in the language of the previously amended independent claims with respect to the drawings. The independent claims are amended herein. Applicant submits that the drawings satisfy 37 CFR. 183(a).

Applicant respectfully requests withdrawal of these objections to the drawings.

First §112 Rejection of the Claims

Claims 1-12 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicant traverses these grounds of rejection of these claims.

In the Office Action, it is stated that "selection of the property of the capping layer is not disclosed in the specification as originally filed." Applicant respectfully disagrees. In the original specification on page 4 line 26 recites "a capping adhesion and/or barrier (adhesion/barrier) layer." The phrase "adhesion and/or barrier" is used as an adjective describing the capping layer. An adjective limits or qualifies the noun that it modifies. Thus, an adhesion and/or barrier layer

may be an adhesion layer, a barrier layer, or an adhesion and barrier layer. Adhesion is a material property and barrier is a material property.

However, Applicant amends claims 1 and 2 to further clarify these claims. Support for the amendments is provided in the original specification on page 4 line 26 and on page 5, lines 4 and 5. Applicant notes that Applicant is entitled to be his own lexicographer and that use of the term “adhesion/barrier” in the instant claims is supported in the original specification such that upon studying the specification one skilled in the art would understand the use of the term “adhesion/barrier” in the instant claims. Applicant notes that the term “barrier/adhesion” is used in U.S. Patent 6,376,370 cited in the instant Office Action, and the term “adhesion/barrier” is also used in other patents.

Applicant respectfully requests withdrawal of these rejections of claims 1-12, and reconsideration and allowance of these claims.

Second §112 Rejection of the Claims

Claims 1-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant traverses these grounds of rejection of these claims.

In the Office Action, it is stated that “[i]t is not clear how one having ordinary skill in the art can select the property of the material after the fact forming the material.” Applicant respectfully disagrees with this interpretation. Applicant cannot find in claim 1 a limitation as to when the property is selected. Claim 1 recited, in relevant part, “depositing a capping layer on the core conductive layer after the H₂ plasma treatment, the capping layer to provide at least one property, the property selected from an adhesion property and a barrier property.” The expression “the capping layer to provide at least one property, the property selected from an adhesion property and a barrier property” is a phrase describing the capping layer and does not provide limitations on when the material is selected.

With respect to claim 2, in the Office Action, it is stated that “[i]t is not clear that how on of ordinary skill in the art would select the property of the material rather than selecting the material that inherently provides certain properties.” Applicant respectfully disagrees with this interpretation. Claim 2 recited, in relevant part, “depositing a seed layer on a base conductive

layer, the base conductive layer to provide at least one property, the property selected from an adhesion property and a barrier property.” The expression “the property selected from an adhesion property and a barrier property” is a phrase describing a set of properties, one or more of which base conductive layer provides.

However, Applicant amends claims 1 and 2 to further clarify these claims. Support for the amendments is provided in the original specification on page 4 line 26 and on page 5, lines 4 and 5. Applicant notes that Applicant is entitled to be his own lexicographer and that use of the term “adhesion/barrier” in the instant claims is supported in the original specification such that upon studying the specification one skilled in the art would understand the use of the term “adhesion/barrier” in the instant claims. Applicant notes that the term “barrier/adhesion” is used in U.S. Patent 6,376,370 cited in the instant Office Action, and the term “adhesion/barrier” is also used in other patents.

Applicant respectfully requests withdrawal of these rejections of claims 1-12, and reconsideration and allowance of these claims.

§103 Rejection of the Claims

Claims 1-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Farr (U.S. Patent No. 6,376,370) in view of Agnello et al. (U.S. Patent No. 6,255,217). Applicant traverses these grounds of rejection of these claims.

Applicant cannot find in the combination of Farrar and Agnello et al. (hereafter Agnello), as proffered in the Office Action, a teaching or a suggestion of a method including forming a first conductive layer in an opening in a dielectric structure supported by a substrate and depositing a seed layer on the first conductive layer such that the seed layer and the first conductive layer extend above the dielectric structure, where the first conductive layer is an adhesion/barrier layer, as recited in amended claim 1. Therefore, Applicant submits that the combination of Farrar and Agnello does not teach or suggest all the elements of claim 1. Thus, Applicant submits that for at least the reason stated above, claim 1 is patentable over Farrar in view of Agnello. Claims 2-12 are dependent on claim 1 and are patentable over Farrar in view of Agnello for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claims 1-12, and reconsideration and allowance of these claims.

Withdrawn Claims

Withdrawn claims 13-17, 20, 23, 25-31, 37, 39-42, 44-50, and 52-55 are amended in a manner to follow the amendments to claim 1. Applicant submits that independent claims 13, 27, 40, and 48 and the claims that dependent from these claims are properly linked to claim 1, which Applicant believes is noted in the Office Action discussion with respect the restriction requirement. Thus, with the allowance of claim 1, Applicant respectfully requests the rejoinder and allowance of claims 13-57 and 104-106. *See M.P.E.P. 809 and M.P.E.P. 821.04.*

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 371-2157 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

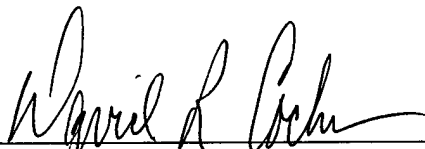
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 22 day of March, 2006.

LISA ROSORSKE

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